

What is claimed is:

1. A fluorescent lamp, comprising:

a red color phosphor having a maximum luminous wavelength within the range  
5 of about 600 to 620nm;

a green color phosphor having a maximum luminous wavelength within the  
range of about 520 to 555nm; and

a blue color phosphor having a maximum luminous wavelength within the range  
of about 440 to 460nm,

10 wherein said green color phosphor has only one maximum luminous peak  
corresponding to the luminous wavelength range of about 520 to 555nm.

2. The fluorescent lamp as claimed in claim 1, wherein said green color  
phosphor is comprised of  $\text{Zn}_2\text{SiO}_4\cdot\text{Mn}^{2+}$  with  $\text{Mn}^{2+}$  as an activator.

15 3. The fluorescent lamp as claimed in claim 1, wherein said blue color  
phosphor has a luminous spectral distribution of a line shape.

4. The fluorescent lamp as claimed in claim 3, wherein said blue color  
20 phosphor has a luminous spectral distribution of which half band width is about 40nm or  
narrower.

5. The fluorescent lamp as claimed in claim 3, wherein said blue color

phosphor is comprised of any one selected from the group consisting of  $\text{Sr}_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{2+}$ ,  $(\text{Sr,Ca})_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{3+}$  and  $(\text{Sr,Ca})_{10}(\text{PO}_4)_6\text{B}_2\text{O}_3:\text{Eu}^{2+}$ .

6. A fluorescent lamp, comprising:

a red color phosphor having a maximum luminous wavelength within the range of about 600 to 620nm;

a green color phosphor having a maximum luminous wavelength within the range of about 520 to 555nm; and

a blue color phosphor having a maximum luminous wavelength within the range of about 440 to 460nm,

wherein said green color phosphor has a maximum luminous peak corresponding to the maximum luminous wavelength of about 520 to 555nm and a side peak about 20% or smaller compared with the maximum luminous peak.

7. The fluorescent lamp as claimed in claim 6, wherein the side peak existing about 520nm or less of said green color phosphor has about 20% or less compared with the maximum luminous peak, and the side peak existing about 555nm or more of said green color phosphor has about 10% or smaller relative size in comparison with the maximum luminous peak.

8. The fluorescent lamp as claimed in claim 6, wherein an activator of said green color phosphor is comprised of  $\text{Ce}^{3+}:\text{Tb}^{3+}$ .

9. The fluorescent lamp as claimed in claim 8, wherein said green color phosphor is comprised of any one selected from the group consisting of  $\text{LaPO}_4:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{La}_2\text{O}_{3x}\text{SiO}_{2y}\text{P}_2\text{O}_5:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{Y}_2\text{SiO}_5:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{CeMgAlxOy}:\text{Ce}^{3+}:\text{Tb}^{3+}$  and  $\text{GdMgBxOy}:\text{Ce}^{3+}:\text{Tb}^{3+}$ .

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10. The fluorescent lamp as claimed in claim 6, wherein said green color phosphor is a mixture formed by mixing any one selected from the group consisting of  $\text{LaPO}_4:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{La}_2\text{O}_{3x}\text{SiO}_{2y}\text{P}_2\text{O}_5:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{Y}_2\text{SiO}_5:\text{Ce}^{3+}:\text{Tb}^{3+}$ ,  $\text{CeMgAlxOy}:\text{Ce}^{3+}:\text{Tb}^{3+}$ , and  $\text{GdMgBxOy}:\text{Ce}^{3+}:\text{Tb}^{3+}$ , having  $\text{Ce}^{3+}:\text{Tb}^{3+}$  as an activator and a phosphor of  $\text{Zn}_2\text{SiO}_4:\text{Mn}^{2+}$ , having  $\text{Mn}^{2+}$  as the activator.

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11. The fluorescent lamp as claimed in claim 6, wherein said blue color phosphor has a luminous spectral distribution of a line shape.

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12. The fluorescent lamp as claimed in claim 11, wherein said blue color phosphor has a luminous spectral distribution of which half bandwidth is about 40nm or narrower.

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13. The fluorescent lamp as claimed in claim 11, wherein said blue color phosphor is comprised of any one selected from the group consisting of  $\text{Sr}_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{2+}$ ,  $(\text{Sr,Ca})_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{3+}$  and  $(\text{Sr,Ca})_{10}(\text{PO}_4)_6\text{nB}_2\text{O}_3:\text{Eu}^{2+}$ .

14. A fluorescent lamp, comprising:

a red color phosphor having a maximum luminous wavelength within the range of about 600 to 620nm;

a green color phosphor having a maximum luminous wavelength within the range of about 520 to 555nm; and

5 a blue color phosphor having a maximum luminous wavelength within the range of about 440 to 460nm, wherein said blue phosphor has a luminous spectral distribution of a line shape.

10 15. The fluorescent lamp as claimed in claim 14, wherein said blue color phosphor has a luminous spectral distribution which a half bandwidth is about 40nm or narrower.

15 16. The fluorescent lamp as claimed in claim 14, wherein said blue color phosphor is comprised of any one selected from the group consisting of  $\text{Sr}_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{2+}$ ,  $(\text{Sr},\text{Ca})_{10}(\text{PO}_4)_6\text{Cl}_2:\text{Eu}^{3+}$  and  $(\text{Sr},\text{Ca})_{10}(\text{PO}_4)_6\text{nB}_2\text{O}_3:\text{Eu}^{2+}$ .

17. A liquid crystal display device having a fluorescent lamp, comprising:  
a red color phosphor having a maximum luminous wavelength within the range of about 600 to 620nm, a green color phosphor having a maximum luminous wavelength within the range of about 520 to 555nm, and a blue color phosphor having a maximum luminous wavelength within the range of about 440 to 460nm, wherein said green color phosphor has only one maximum luminous peak corresponding to the maximum luminous wavelength of about 520 to 555nm.

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18. The liquid crystal display device as claimed in claim 17, wherein said blue color phosphor of said fluorescent lamp has a luminous spectral distribution of a line shape.

19. A liquid crystal display device having a fluorescent lamp, comprising:  
a red color phosphor having a maximum luminous wavelength within the range of about 600 to 620nm;

a green color phosphor having a maximum luminous wavelength within the range of about 520 to 555nm; and

a blue color phosphor having a maximum luminous wavelength within the range of about 440 to 460nm;

wherein said green color phosphor has a maximum luminous peak corresponding to the maximum luminous wavelength of about 520 to 555nm and a side peak about 20% or smaller compared with the maximum luminous peak.

20. The liquid crystal display device as claimed in claim 19, wherein the side peak of said green color phosphor existing within the luminous wavelength range of about 520nm or under has about 20% or smaller relative size in comparison with the maximum luminous peak, and the side peak of said green color phosphor existing within the luminous wavelength range of about 555nm or larger has about 10% or smaller size compared with the maximum luminous peak.

21. The liquid crystal display device as claimed in claim 19, wherein said blue color phosphor of the fluorescent lamp has a luminous spectral distribution of a line shape.

5 22. A liquid crystal display device, comprising:  
a red color phosphor having a maximum luminous wavelength within the range of about 600 to 620nm;

a green color phosphor having a maximum luminous wavelength within the range of about 520 to 555nm;

10 a blue color phosphor having a maximum luminous wavelength within the range of about 440 to 460nm; and

wherein said blue color phosphor has a luminous spectral distribution of a line shape.

15 23. The liquid crystal display device as claimed in claim 22, wherein said blue color phosphor of the fluorescent lamp has a luminous spectral distribution of which half band width is about 40nm or narrower.